```
data_lach35

_publ_section_comment
;
A mixture of 'R' groups is observed by the first two carbon atoms in
the chain being fully occupied, but the third
carbon only having half occupancy as it is only present when R=C3H5
and not when R=C2H3.
One of the NEt4 cations (N2) is disordered, three possible carbon
chains are observed, however the nitrogen is on
a centre of symmetry so the chains are repeated by symmetry to make
six possible positions. Some of the carbon atoms
in these chains have short intermolecular contacts with C3 as there
positions are not certain.
An acetonitrile solvent molecule is present in the structure, the
positions of the atoms in this molecule can not
be determined exactly.
A H+ ion must be present in the structure to balance the charge, this
is most likely coordinating between the P=O
groups at the top of the anion, however it can not be seen due to the
quality of the data.
;

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;
 ?
;

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 'C31 H71 N5 O38 P2 Si W10'
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 'H'  'H'   0.0000   0.0000
 'International Tables Vol C Tables 4.2.6.8 and 6.1.1.4'
 'O'  'O'   0.0492   0.0322
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 'Si'  'Si'   0.2541   0.3302
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 'P'  'P'   0.2955   0.4335
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 'W'  'W'  -5.4734   5.5774
 'International Tables Vol C Tables 4.2.6.8 and 6.1.1.4'
 'N'  'N'   0.0311   0.0180
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 'x, y, z'
 'x, -y, -z'
 'x+1/2, -y+1/2, z+1/2'
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 'x+1/2, y+1/2, -z+1/2'

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_cell_length_c                    19.375
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_cell_angle_gamma                 90.00
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_computing_cell_refinement        SAINTPLUS
_computing_data_reduction         SAINTPLUS
_computing_structure_solution     SHELXTL
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_computing_structure_refinement   'SHELXTL-97 (Shelrick, 1997)'

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 Refinement of F^2^ against ALL reflections.  The weighted R-factor
wR and
 goodness of fit S are based on F^2^, conventional R-factors R are
based
 on F, with F set to zero for negative F^2^. The threshold expression
of
 F^2^ > 2sigma(F^2^) is used only for calculating R-factors(gt) etc.
and is
 not relevant to the choice of reflections for refinement.  R-factors
based
 on F^2^ are statistically about twice as large as those based on F,
and R-
 factors based on ALL data will be even larger.
;

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_refine_ls_weighting_details
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^)/3'
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 'Flack H D (1983), Acta Cryst. A39, 876-881'
_refine_ls_abs_structure_Flack    0.03(4)
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_refine_ls_number_restraints      193
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C1S C 0.809(8) 0.113(8) 0.619(6) 0.36(8) Uiso 1 1 d DU . .
C2 C 0.305(4) 0.871(3) 0.7624(18) 0.095(16) Uani 1 1 d DU . .
C2S C 0.873(8) 0.061(5) 0.561(4) 0.21(4) Uiso 1 1 d DU . .
H2S1 H 0.8524 0.0841 0.5171 0.316 Uiso 1 1 calc R . .
H2S2 H 0.8453 0.0043 0.5637 0.316 Uiso 1 1 calc R . .
```

H2S3 H 0.9624 0.0629 0.5676 0.316 Uiso 1 1 calc R . .
C3 C 0.312(8) 0.927(4) 0.705(3) 0.09(3) Uani 0.50 1 d PDU . .
N1 N -0.197(2) 0.7929(15) 0.6610(12) 0.051(7) Uiso 1 1 d DU . .
C4 C -0.230(4) 0.807(2) 0.5888(15) 0.073(12) Uiso 1 1 d DU . .
H4A H -0.1845 0.8559 0.5723 0.087 Uiso 1 1 calc R . .
H4B H -0.3186 0.8200 0.5858 0.087 Uiso 1 1 calc R . .
C5 C -0.201(4) 0.733(2) 0.5413(18) 0.084(14) Uiso 1 1 d DU . .
H5A H -0.2270 0.7453 0.4951 0.126 Uiso 1 1 calc R . .
H5B H -0.2444 0.6842 0.5576 0.126 Uiso 1 1 calc R . .
H5C H -0.1122 0.7221 0.5416 0.126 Uiso 1 1 calc R . .
C6 C -0.059(2) 0.768(2) 0.6696(17) 0.062(11) Uiso 1 1 d DU . .
H6A H -0.0414 0.7591 0.7181 0.074 Uiso 1 1 calc R . .
H6B H -0.0436 0.7165 0.6452 0.074 Uiso 1 1 calc R . .
C7 C 0.028(3) 0.835(2) 0.642(2) 0.080(13) Uiso 1 1 d DU . .
H7A H 0.1135 0.8184 0.6488 0.121 Uiso 1 1 calc R . .
H7B H 0.0134 0.8867 0.6661 0.121 Uiso 1 1 calc R . .
H7C H 0.0130 0.8433 0.5936 0.121 Uiso 1 1 calc R . .
C8 C -0.222(4) 0.867(2) 0.7083(19) 0.083(13) Uiso 1 1 d DU . .
H8A H -0.1662 0.9124 0.6955 0.099 Uiso 1 1 calc R . .
H8B H -0.2025 0.8513 0.7554 0.099 Uiso 1 1 calc R . .
C9 C -0.358(4) 0.899(4) 0.705(3) 0.15(2) Uiso 1 1 d DU . .
H9A H -0.3678 0.9449 0.7360 0.221 Uiso 1 1 calc R . .
H9B H -0.4135 0.8544 0.7184 0.221 Uiso 1 1 calc R . .
H9C H -0.3769 0.9160 0.6589 0.221 Uiso 1 1 calc R . .
C10 C -0.266(5) 0.713(3) 0.687(2) 0.116(19) Uiso 1 1 d DU . .
H10A H -0.2303 0.6645 0.6645 0.140 Uiso 1 1 calc R . .
H10B H -0.3536 0.7162 0.6735 0.140 Uiso 1 1 calc R . .
C11 C -0.259(7) 0.699(4) 0.774(2) 0.16(3) Uiso 1 1 d DU . .
H11A H -0.3091 0.6520 0.7868 0.245 Uiso 1 1 calc R . .
H11B H -0.2891 0.7481 0.7967 0.245 Uiso 1 1 calc R . .
H11C H -0.1734 0.6892 0.7871 0.245 Uiso 1 1 calc R . .
N2 N 0.304(4) 0.006(3) 0.5332(17) 0.051(15) Uiso 0.50 1 d PDU . .
C12 C 0.228(4) 0.077(3) 0.515(2) 0.025(13) Uiso 0.50 1 d PDU . .
H12A H 0.2003 0.0712 0.4678 0.030 Uiso 0.50 1 calc PR . .
H12B H 0.2780 0.1271 0.5185 0.030 Uiso 0.50 1 calc PR . .
C13 C 0.112(6) 0.086(5) 0.562(4) 0.09(3) Uiso 0.50 1 d PDU . .
H13A H 0.0640 0.1337 0.5478 0.136 Uiso 0.50 1 calc PR . .
H13B H 0.1385 0.0938 0.6092 0.136 Uiso 0.50 1 calc PR . .
H13C H 0.0614 0.0369 0.5590 0.136 Uiso 0.50 1 calc PR . .
C14 C 0.316(5) -0.011(3) 0.6110(19) 0.057(19) Uiso 0.50 1 d PDU . .
H14A H 0.2330 -0.0098 0.6318 0.068 Uiso 0.50 1 calc PR . .
H14B H 0.3512 -0.0656 0.6184 0.068 Uiso 0.50 1 calc PR . .
C15 C 0.398(10) 0.055(6) 0.645(3) 0.14(5) Uiso 0.50 1 d PDU . .
H15A H 0.4036 0.0435 0.6940 0.217 Uiso 0.50 1 calc PR . .
H15B H 0.3624 0.1092 0.6386 0.217 Uiso 0.50 1 calc PR . .
H15C H 0.4803 0.0532 0.6256 0.217 Uiso 0.50 1 calc PR . .
C16 C 0.433(4) 0.0000 0.5000 0.20(5) Uiso 1 2 d SDU . .
H16A H 0.4224 -0.0063 0.4506 0.235 Uiso 0.50 1 calc PR . .
H16B H 0.4742 -0.0498 0.5170 0.235 Uiso 0.50 1 calc PR . .
C17 C 0.519(8) 0.075(4) 0.513(6) 0.13(4) Uiso 0.50 1 d PDU . .
H17A H 0.5970 0.0667 0.4903 0.201 Uiso 0.50 1 calc PR . .
H17B H 0.5326 0.0807 0.5620 0.201 Uiso 0.50 1 calc PR . .
H17C H 0.4795 0.1247 0.4960 0.201 Uiso 0.50 1 calc PR . .
O1 O 0.0254(18) 1.0442(11) 0.7514(9) 0.038(4) Uani 1 1 d DU . .
O2 O 0.1615(18) 1.0108(10) 0.8489(9) 0.031(3) Uani 1 1 d DU . .
O3 O -0.008(2) 0.9010(9) 0.8150(8) 0.027(3) Uani 1 1 d U . .
O4 O 0.334(2) 0.9719(14) 0.9437(12) 0.061(7) Uani 1 1 d U . .
O5 O 0.1753(18) 0.8668(10) 0.9065(8) 0.026(3) Uani 1 1 d U . .
O6 O 0.0187(19) 0.7392(10) 0.8603(9) 0.034(4) Uani 1 1 d U . .
O7 O -0.0090(17) 0.8050(9) 0.9935(8) 0.024(3) Uani 1 1 d U . .
O8 O -0.0691(16) 0.7037(11) 1.1076(10) 0.033(4) Uani 1 1 d U . .
O9 O -0.0093(18) 1.1238(9) 0.8748(7) 0.022(3) Uani 1 1 d U . .
O10 O -0.0235(17) 0.9651(9) 0.9349(8) 0.019(3) Uani 1 1 d U . .
O11 O -0.1903(18) 1.0206(11) 0.8327(10) 0.029(4) Uani 1 1 d U . .
O12 O -0.1806(17) 0.8347(11) 0.9015(9) 0.028(3) Uani 1 1 d U . .
O13 O -0.2490(16) 0.7681(10) 1.0137(9) 0.024(3) Uani 1 1 d U . .

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O14 O -0.2441(16) 0.8322(10) 1.1342(8) 0.024(3) Uani 1 1 d U . .
O15 O -0.1902(14) 0.9220(9) 1.0275(8) 0.016(2) Uani 1 1 d U . .
O16 O -0.4170(17) 0.8844(12) 1.0427(10) 0.034(4) Uani 1 1 d U . .
O17 O -0.442(2) 0.9301(11) 1.1804(11) 0.045(5) Uani 1 1 d U . .
O18 O -0.3562(17) 0.9555(11) 0.9170(10) 0.032(4) Uani 1 1 d U . .
O19 O -0.4402(18) 0.7919(12) 0.9209(10) 0.039(4) Uani 1 1 d U . .
Si1 Si -0.1032(9) 1.0000 1.0000 0.0146(18) Uani 1 2 d SU . .
P1 P 0.2524(7) 0.9407(5) 0.8858(4) 0.0293(16) Uani 1 1 d U . .
W1 W -0.01278(13) 1.01914(7) 0.82858(5) 0.0226(3) Uani 1 1 d U . .
W2 W -0.01046(13) 0.83399(6) 0.89890(6) 0.0224(3) Uani 1 1 d U . .
W3 W -0.11210(12) 0.79972(7) 1.07446(6) 0.0218(3) Uani 1 1 d U . .
W4 W -0.33109(13) 0.93504(7) 1.11839(6) 0.0251(3) Uani 1 1 d U . .
W5 W -0.33063(13) 0.85068(7) 0.96062(6) 0.0251(3) Uani 1 1 d U . .
N1S N 0.795(6) 0.159(4) 0.664(4) 0.21(3) Uiso 1 1 d DU . .

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C2 0.06(3) 0.20(5) 0.029(17) -0.007(16) -0.006(16) 0.05(3)
C3 0.11(6) 0.06(4) 0.11(3) -0.01(3) -0.06(4) 0.05(4)
O1 0.057(12) 0.021(8) 0.035(7) -0.007(6) 0.020(7) -0.001(9)
O2 0.025(5) 0.025(6) 0.042(7) 0.004(6) 0.016(5) 0.000(5)
O3 0.042(9) 0.020(5) 0.019(6) 0.000(5) -0.002(7) 0.000(7)
O4 0.083(18) 0.045(14) 0.056(13) 0.001(10) -0.035(11) -0.018(11)
O5 0.022(6) 0.025(7) 0.031(9) 0.003(6) 0.003(6) 0.002(6)
O6 0.056(12) 0.012(6) 0.036(9) -0.003(6) -0.001(9) 0.000(7)
O7 0.022(6) 0.019(6) 0.029(5) -0.003(5) 0.004(5) 0.006(6)
O8 0.027(11) 0.019(8) 0.051(11) 0.009(7) 0.000(7) -0.005(6)
O9 0.018(7) 0.020(5) 0.027(7) -0.002(5) -0.012(7) 0.002(6)
O10 0.018(8) 0.014(5) 0.024(6) -0.002(4) 0.005(6) -0.003(6)
O11 0.031(6) 0.018(9) 0.037(10) -0.001(8) -0.007(7) -0.005(7)
O12 0.029(6) 0.029(9) 0.026(7) -0.006(6) -0.001(5) -0.009(6)
O13 0.024(7) 0.013(6) 0.036(8) -0.002(6) 0.000(6) -0.005(6)
O14 0.021(9) 0.026(8) 0.026(8) 0.007(6) -0.002(5) -0.005(6)
O15 0.016(4) 0.011(4) 0.020(4) -0.001(4) 0.001(3) 0.000(3)
O16 0.015(7) 0.039(11) 0.049(7) 0.001(7) -0.001(5) 0.004(7)
O17 0.053(13) 0.016(9) 0.064(10) -0.004(9) 0.032(9) -0.002(8)
O18 0.030(8) 0.030(6) 0.037(7) 0.003(6) -0.012(6) 0.004(6)
O19 0.028(9) 0.037(10) 0.051(11) 0.004(8) -0.006(7) -0.019(8)
Si1 0.015(5) 0.009(4) 0.020(4) 0.000(3) 0.000 0.000
P1 0.018(4) 0.026(4) 0.044(4) 0.003(3) -0.007(3) -0.004(3)
W1 0.0262(7) 0.0182(5) 0.0233(6) 0.0007(4) 0.0012(6) 0.0028(6)
W2 0.0261(7) 0.0123(5) 0.0289(6) -0.0034(5) 0.0044(6) 0.0016(6)
W3 0.0215(7) 0.0104(5) 0.0334(7) 0.0032(5) 0.0019(6) -0.0002(5)
W4 0.0187(7) 0.0178(6) 0.0388(7) 0.0012(5) 0.0098(6) -0.0010(6)
W5 0.0196(7) 0.0155(5) 0.0403(7) -0.0007(5) -0.0040(6) -0.0053(6)

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 All esds (except the esd in the dihedral angle between two l.s.
planes)
 are estimated using the full covariance matrix.  The cell esds are
taken
 into account individually in the estimation of esds in distances,
angles
 and torsion angles; correlations between esds in cell parameters are
only
 used when they are defined by crystal symmetry.  An approximate
(isotropic)
 treatment of cell esds is used for estimating esds involving l.s.
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planes.
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C1 P1 1.72(3) . ?
C1S N1S 1.154(10) . ?
C1S C2S 1.56(2) . ?
C2 C3 1.43(5) . ?
N1 C4 1.46(3) . ?
N1 C8 1.52(2) . ?
N1 C6 1.54(2) . ?
N1 C10 1.56(5) . ?
C4 C5 1.54(3) . ?
C6 C7 1.52(2) . ?
C8 C9 1.54(3) . ?
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C14 C15 1.527(19) . ?
C16 C17 1.53(2) . ?
O1 W1 1.602(17) . ?
O2 P1 1.649(19) . ?
O2 W1 1.91(2) . ?
O3 W1 1.913(15) . ?
O3 W2 1.948(15) . ?
O4 P1 1.50(2) . ?
O5 P1 1.498(18) . ?
O5 W2 2.060(19) . ?
O6 W2 1.722(16) . ?
O7 W2 1.890(15) . ?
O7 W3 1.919(16) . ?
O8 W3 1.731(17) . ?
O9 W1 1.902(15) . ?
O9 W3 1.918(17) 2_577 ?
O10 Si1 1.621(16) . ?
O10 W2 2.220(14) . ?
O10 W1 2.238(15) . ?
O11 W1 1.900(19) . ?
O11 W4 1.915(19) 2_577 ?
O12 W2 1.819(18) . ?
O12 W5 1.988(18) . ?
O13 W5 1.890(17) . ?
O13 W3 1.945(17) . ?
O14 W3 1.898(17) . ?
O14 W4 1.917(17) . ?
O15 Si1 1.647(16) . ?
O15 W5 2.288(15) . ?
O15 W3 2.317(15) . ?
O15 W4 2.327(15) . ?
O16 W4 1.912(19) . ?
O16 W5 1.917(19) . ?
O17 W4 1.686(18) . ?
O18 W5 1.900(17) . ?
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O19 W5 1.688(18) . ?
Si1 O10 1.621(16) 2_577 ?
Si1 O15 1.647(16) 2_577 ?
W3 O9 1.918(17) 2_577 ?
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N1S C1S C2S 161(7) . . ?
C1 C2 C3 111(5) . . ?
C4 N1 C8 114(2) . . ?
C4 N1 C6 112(2) . . ?
C8 N1 C6 107(2) . . ?
C4 N1 C10 109(2) . . ?
C8 N1 C10 111(3) . . ?
C6 N1 C10 102(3) . . ?
N1 C4 C5 113(2) . . ?
C7 C6 N1 112(2) . . ?
N1 C8 C9 113(3) . . ?
N1 C10 C11 114(4) . . ?
C12 N2 C16 117(3) . . ?
C12 N2 C14 115(2) . . ?
C16 N2 C14 109(3) . . ?
N2 C12 C13 113(2) . . ?
C15 C14 N2 111(2) . . ?
N2 C16 C17 115(3) . . ?
P1 O2 W1 135.5(10) . . ?
W1 O3 W2 115.5(7) . . ?
P1 O5 W2 135.5(11) . . ?
W2 O7 W3 143.0(10) . . ?
W1 O9 W3 142.6(11) . 2_577 ?
Si1 O10 W2 127.2(8) . . ?
Si1 O10 W1 127.5(9) . . ?
W2 O10 W1 94.2(5) . . ?
W1 O11 W4 144.1(10) . 2_577 ?
W2 O12 W5 145.4(10) . . ?
W5 O13 W3 119.6(8) . . ?
W3 O14 W4 120.0(8) . . ?
Si1 O15 W5 124.5(8) . . ?
Si1 O15 W3 124.5(9) . . ?
W5 O15 W3 92.1(5) . . ?
Si1 O15 W4 122.8(8) . . ?
W5 O15 W4 92.8(6) . . ?
W3 O15 W4 90.7(5) . . ?
W4 O16 W5 121.7(9) . . ?
W5 O18 W4 162.8(11) . 2_577 ?
O10 Si1 O10 116.6(14) 2_577 . ?
O10 Si1 O15 106.6(7) 2_577 2_577 ?
O10 Si1 O15 107.9(8) . 2_577 ?
O10 Si1 O15 107.9(8) 2_577 . ?
O10 Si1 O15 106.6(8) . . ?
O15 Si1 O15 111.3(12) 2_577 . ?
O5 P1 O4 112.4(12) . . ?
O5 P1 O2 109.3(10) . . ?
O4 P1 O2 116.0(12) . . ?
O5 P1 C1 107.2(13) . . ?
O4 P1 C1 105.4(17) . . ?
O2 P1 C1 105.9(13) . . ?
O1 W1 O11 106.9(9) . . ?
O1 W1 O9 102.3(8) . . ?
O11 W1 O9 89.4(8) . . ?
O1 W1 O2 87.8(8) . . ?
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O9 W1 O2 86.9(8) . . ?
O1 W1 O3 96.5(8) . . ?
O11 W1 O3 92.7(8) . . ?
O9 W1 O3 159.6(6) . . ?
O2 W1 O3 86.0(8) . . ?
O1 W1 O10 165.9(8) . . ?
O11 W1 O10 85.1(8) . . ?
O9 W1 O10 84.8(6) . . ?
O2 W1 O10 80.4(7) . . ?
O3 W1 O10 75.2(6) . . ?
O6 W2 O12 101.4(9) . . ?
O6 W2 O7 101.7(7) . . ?
O12 W2 O7 89.0(8) . . ?
O6 W2 O3 97.0(7) . . ?
O12 W2 O3 92.0(9) . . ?
O7 W2 O3 160.7(6) . . ?
O6 W2 O5 94.7(8) . . ?
O12 W2 O5 163.8(7) . . ?
O7 W2 O5 89.2(7) . . ?
O3 W2 O5 84.5(8) . . ?
O6 W2 O10 169.7(8) . . ?
O12 W2 O10 85.6(7) . . ?
O7 W2 O10 85.9(6) . . ?
O3 W2 O10 75.0(6) . . ?
O5 W2 O10 78.2(6) . . ?
O8 W3 O14 102.4(8) . . ?
O8 W3 O9 103.1(8) . 2_577 ?
O14 W3 O9 86.5(7) . 2_577 ?
O8 W3 O7 101.0(8) . . ?
O14 W3 O7 156.0(7) . . ?
O9 W3 O7 93.6(7) 2_577 . ?
O8 W3 O13 101.1(8) . . ?
O14 W3 O13 83.1(7) . . ?
O9 W3 O13 155.2(7) 2_577 . ?
O7 W3 O13 87.1(8) . . ?
O8 W3 O15 173.9(7) . . ?
O14 W3 O15 74.9(6) . . ?
O9 W3 O15 82.4(6) 2_577 . ?
O7 W3 O15 81.3(6) . . ?
O13 W3 O15 73.2(6) . . ?
O17 W4 O18 101.6(8) . 2_577 ?
O17 W4 O16 101.0(10) . . ?
O18 W4 O16 92.7(8) 2_577 . ?
O17 W4 O11 102.5(9) . 2_577 ?
O18 W4 O11 86.9(8) 2_577 2_577 ?
O16 W4 O11 156.2(8) . 2_577 ?
O17 W4 O14 100.7(8) . . ?
O18 W4 O14 156.7(7) 2_577 . ?
O16 W4 O14 89.4(8) . . ?
O11 W4 O14 82.0(7) 2_577 . ?
O17 W4 O15 171.2(8) . . ?
O18 W4 O15 84.3(7) 2_577 . ?
O16 W4 O15 72.0(7) . . ?
O11 W4 O15 84.2(7) 2_577 . ?
O14 W4 O15 74.3(6) . . ?
O19 W5 O13 100.2(9) . . ?
O19 W5 O18 101.0(9) . . ?
O13 W5 O18 158.1(7) . . ?
O19 W5 O16 101.6(9) . . ?
O13 W5 O16 88.2(8) . . ?
O18 W5 O16 92.9(8) . . ?
O19 W5 O12 103.0(8) . . ?
O13 W5 O12 81.4(8) . . ?
O18 W5 O12 88.5(8) . . ?
O16 W5 O12 154.6(8) . . ?
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O19 W5 O15 172.5(8) . . ?
O13 W5 O15 74.9(6) . . ?
O18 W5 O15 84.5(7) . . ?
O16 W5 O15 72.9(7) . . ?
O12 W5 O15 82.0(6) . . ?

_diffrn_measured_fraction_theta_max    0.974
_diffrn_reflns_theta_full              64.98
_diffrn_measured_fraction_theta_full   0.974
_refine_diff_density_max    1.774
_refine_diff_density_min   -1.553
_refine_diff_density_rms    0.311
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